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ABSTRACT

Minimum state standards for teacher education/teacher certification of selected states across the United States are reviewed, including admission to teacher education, general education, professional education, specialization studies, and any additional state requirements. Recommendations and findings of effective schools studies are presented. A brief research review is presented of summary articles on effective teacher characteristics. Finally, the proposals and findings of the effective schools studies and the teacher effectiveness studies are compared to the minimum standards set, in general, by state departments of education for teacher certification. (Author/JD)

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A REVIEW OF CURRENT STATE MINIMUM TEACHER CERTIFICATION STANDARDS AND THEIR RELATIONSHIP TO EFFECTIVE SCHOOLS CRITERIA AND EFFECTIVE TEACHER CHARACTERISTICS

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Summary

A review of state minimum teacher certification standards of selected states will be reviewed and compared to recommendations from effective schools studies and to characteristics of effective teachers.

Abstract

Minimum state standards for teacher education/teacher certification of selected states across the United States will be reviewed, including admission to teacher education, general education, professional education, specialization studies, and any additional state requirements. Recommendations and findings of effective schools studies will be presented. A brief research review will then be presented of summary articles on effective teacher characteristics. Finally, the proposals and findings of the effective schools studies and the teacher effectiveness studies will be compared to the minimum standards set, in general, by state departments of education for teacher certification.

A REVIEW OF CURRENT STATE MINIMUM TEACHER CERTIFICATION STANDARDS AND THEIR RELATIONSHIP TO EFFECTIVE SCHOOLS CRITERIA AND EFFECTIVE TEACHER CHARACTERISTICS

The philosophy is generally supported that criteria set by state departments of education as minimum standards for teacher certification programs should have a direct relationship to teaching effectiveness both in terms of effectiveness of schools and effectiveness of teachers. National teacher accreditation associations seem to have that goal. For instance, the National Council for the Accreditation of Teacher Education (NCATE) states in their mission statement that their goal is "(1) to require a level of quality in professional education that fosters competent practice of graduates and (2) to encourage institutions to meet rigorous academic standards of excellence in professional education (NCATE, 1987, p. 1)." They further state that they

seek to "ensure that requirements for accreditation are related to best professional practice (p.1)." Individual teacher preparation institutions generally seek accreditation or approval by national councils such as NCATE and by their respective state departments of education, therefore, institutional goals, in effect, should reflect the goals of NCATE and of their respective state department of education.

As teacher preparation programs at colleges follow the guidelines set by their respective state departments of education, are they thereby employing practices that will produce more effective teachers and ultimately more effective schools in which these teachers practice? This is the question to be reviewed in this report.

The question will be dealt with by first reviewing the minimum state standards for teacher certification mandated by the state departments of education of a sample of states across the United States, including requirements for admission to teacher

education; course work requirements in general education, professional education, and in the specialization studies; and other special state department requirements. The review of the minimum standards will be followed by a review of major studies on effective schools and by a review of summary studies on effective teacher characteristics. Comparisons will then be made between the state teacher education program standards and the findings of the effective schools studies and the teacher effectiveness studies.

State Minimum Teacher Certification Standards

Admission to Teacher Education

Many states mandate that students pursuing teacher certification be admitted to teacher education programs in their respective colleges and that to be admitted, specific criteria must be met. A minimum grade point average of 2.5 on a 4.0

grading scale in college coursework at the point of application for admission to teacher education is sometimes identified. Some states require demonstrated academic competency by setting minimum scores on standardized tests such as the Pre-Professional Skills Test, National Teachers Examination, American College Testing examination, Scholastic Aptitude Test, or the California Basic Educational Skills Test for admission to teacher education. One state set the minimum score score for admission at 18 on the ACT or 800 on the SAT test.

General Education

General education requirements were specified by some state departments of education, but not all. One of the common requirements dealt with the minimum number of semester hours required in general education for teacher certification. The number of semester hours required ranged from 20 to 78 between states. Some states had variant semester hour requirements for

general education, based on the student's major. For example, one state required 31 semester hours in general education for one major compared to 62 semester hours for students specializing in another area.

It was very common for state departments to mandate that coursework be completed in specific areas of general education, including, in particular, language arts, biological and physical sciences, social science, and mathematics.

Professional Education

The minimum number of semester hours of coursework required in the area of professional education varied considerably between states as did the number required in general education, although the maximum number of hours required was not nearly as high. The range between states varied from 16 to 31 semester hours. Areas within professional education were often specified and generally included human growth and development, methods of teaching,

foundations of education, education of exceptional children, and student teaching.

Most state departments of education set minimum standards for student teaching. Some states set a minimum number of semester hours that had to be generated by student teaching, ranging from five to thirteen semester hours, while other states set a minimum number of weeks for the experience, ranging from eight to thirteen weeks. Some states also mandated specified pre-student teaching experiences, ranging from 45 to 100 clock hours logged in the common schools.

Specialization Studies

The variance required by state departments of education for minimum semester hour generation in specialization studies was almost as great as that for general education. The variance between states ranged from 21 to 60 semester hours in the area of specialization. There was also significant variance within some

states between specialization areas. For the sample of states reviewed, in some cases, there was a range of 15 semester hours between specialization requirements for different majors. For example, in one state, a minimum of 36 semester hours was required for certification in social studies, while only 21 semester hours was required for certification in mathematics. Other states set the same minimum number of semester hours for all majors (one state required a minimum of 40 semester hours in all regular teaching fields). Most states identified specific required areas within each specialization.

Additional Requirements

Some states required a minimum grade point average of 2.5 on a 4.0 scale for graduation and certification. Closure competency testing requirements were set by some state departments of education for teacher certification. The tests included specific state developed tests and in some cases national tests, in

particular, the National Teachers Examination. Certification was not granted by the state department unless the applicant had a satisfactory score on the identified test or tests. Finally, some states required an intern year of teaching or completion of a masters degree before final certification would be granted.

Effective Schools Studies

Three major effective schools studies have been reviewed for this report. Each study reviewed will be presented followed by the major findings or recommendations presented in the respective study. No summary of the studies was completed so that comparisons between these studies and the minimum state departments of education certification standards can be drawn discretely in relationship to the respective effective schools study.

The Holmes Group Report: "Tomorrow's Teachers: A Report of the Holmes Group"

Recommendations:

1. Make the education of teachers intellectually more solid. Teachers should have a greater command of academic subjects and skills to teach those subjects. The undergraduate education major should be abolished.

2. Recognize differences in teachers' knowledge, skill, and commitment, in their education, certification, and work. Educators should distinguish between novices, competent members of the profession, and high-level professional leaders. A three-tier system of teacher licensing should be employed, using the titles of "instructor," "professional teacher," and "career professional."

3. Create standards of entry to the profession - examinations and educational requirements - that are professionally relevant and intellectually defensible.

4. Connect our own institutions to common schools. University faculties must work more closely with expert teachers in the field.

5. Make common schools better places for their teachers to work and to learn. This will require less bureaucracy, more professional autonomy, and more leadership given to teachers. Teachers need to be able to learn from each other and from other professionals (Holmes, 1986).

The Holmes Group further recommends that the professional academic and clinical studies be shifted from the undergraduate to the graduate program. The graduate professional education should include the study of teaching and schooling as an academic field, knowledge of the pedagogy of subject matter, and skills and understandings implicit in classroom teaching. Further, they feel that professional development schools, similar to teaching hospitals in the medical profession, should be developed for teacher demonstration sites. In those schools, novel techniques

and practices could be employed with more extensive university supervision (Sedlak, 1987).

The Carnegie Forum Report: "A Nation Prepared: Teachers for the 21st Century"

Recommendations:

1. Create a national board for professional teaching standards.

2. Restructure schools to provide a professional environment for teachers. Hold the teachers accountable for student progress.

3. Restructure the teaching force and introduce a new category of Lead Teachers with proven ability to provide active leadership.

4. Require a bachelors degree in the arts and sciences as a prerequisite for the professional study of teaching. Abolish the undergraduate teaching credential. The teacher

education program would be moved to the graduate level.

5. Develop a new professional curriculum in graduate schools of education leading to a Master in Teaching degree, based on systematic knowledge of teaching and including internships and residencies in the schools. Clinical schools should be selected from the public schools and capably staffed for the preparation of teachers. The graduate program should be a two year program including one year of residency.

6. Mobilize the nation's resources to prepare minority youngsters for teaching careers.

7. Relate incentives for teachers to school-wide student performance. Provide teachers with the tools they need to increase productivity.

8. Make teachers' salaries and career opportunities competitive with those in other professions (Carnegie Forum, 1986; Lake, 1986).

Philadelphia Federal Reserve Bank Study: "Schools Do Make a Difference"

Philadelphia Federal Reserve Bank funded a major educational study in the Philadelphia Public Schools system in which a number of different variables were assessed to determine if they seemed to make a difference in regard to student achievement. All the factors were evaluated based only on their impact on student achievement in the public schools.

Findings:

1. Heterogeneous vs. homogeneous student body - Low achievers performed distinctly better when they were in schools with high achievers, whereas the presence of low achievers generally appeared not to interfere with the learning of high achievers.

2. Racial balance - Black and non-black students seem to benefit academically when schools are more or less racially balanced.

3. Class size - Smaller classes, 27 or fewer, fostered achievement for disadvantaged students. Classes of 34 or more appeared detrimental to everyone.

4. Size of the school - Smaller schools apparently mean increased learning, particularly for elementary and senior high students.

5. Quality of teacher preparation - Elementary students performed better with teachers from higher rated colleges and universities (based on the Gourman rating system).

6. Teacher experience - High achieving students performed best with more experienced teachers (10 years or more). Low achievers in elementary schools did best with new, relatively inexperienced teachers.

7. Teacher education beyond the bachelor's degree - Teacher education beyond the bachelor's degree was not shown to be related to better student achievement.

8. National Teacher Examination - Test scores on the NTE

seem to be virtually unrelated to teacher effectiveness and raise serious questions about their continued use.

9. Relationship between race of teachers and race of students - The study found no relationship between student growth and whether or not a teacher and student were of the same race.

10. Disruption - Harsh incidents involving various kinds of violence significantly lowered the achievement growth of high and middle achievers, but had much less effect on low achievers.

11. Dropouts - The greater proportion of dropouts a high school had, the less student growth there was, particularly for high achievers.

12. Remedial education - Remedial resources showed no particular difference for low-achieving children in this study.

13. Head start participation - The Head Start child arrived

at the third grade at an improved level of achievement. Once at that higher level of achievement, no further increase in rate of learning emerged.

14. Physical facilities - Generally physical facilities of schools had little to do with student learning.

15. Measurable characteristics of school principals - The variance in school principals experience, graduate degrees, and extra credits seemed to have no correlation with student achievement (Summers, 1975).

Effective Teacher Characteristics

Four summary articles were reviewed that dealt with characteristics of effective teachers. Each article is presented separately with the major issues in the article listed following the article title and author identification.

Do Teachers Make a Difference? Issues for the Eighties

(Evertson, 1986)

How teachers make a difference:

1. The academic learning time available for students is high both in quantity and in quality.

2. Classroom management and organization is efficient and effective.

3. Effective teachers employ a pattern of instructional behaviors that relate to higher levels of student learning, including especially, techniques that increase the amount of interaction with students.

4. Effective teachers set high but attainable goals for student performance. Higher expectations result in higher student performance.

Helping teachers make a difference:

1. In preservice teacher preparation programs, teach effective pedagogical procedures. In a review of 13 studies

it was found that 11 of the studies supported that regularly, fully certified teachers exceeded the performance of provisionally certified teachers.

2. Beginning teachers should be given assistance for their first year of teaching, both before the first year by being taught directly relevant information that would be applicable during the first year, and by being provided direct assistance during the first year.

3. Teachers should be provided staff development that is designed to advance the knowledge, skills and understanding of teachers in ways that lead to positive changes in their thinking and classroom behavior.

4. Conditions within the schools should support effective teaching.

5. Frequent feedback on performance, both formal and informal, should be provided the teacher to help improve their practice. The evaluations should be completed by

supervisors and peers.

6. Assist teachers in the use of research for self-improvement.

7. Provide teachers with more empowerment, including self-governance, beginning teacher's internship programs, intervention programs for experienced teachers, and staff development planning committees (Evertson, 1986).

Teacher Perception of Selected Factors Affecting Teaching Success (Garrett, 1978)

Based on a literature review, Garrett (1978) identified a number of factors related to effective teaching which the teachers could control. The factors identified are as follows:

1. Holding a favorable opinion of students and appreciating their potential for learning.

2. Persistence of effort by the teacher

3. Professional growth

4. Work enthusiasm with a serious view toward planning

5. Instructional skills including the ability to use many teaching methods

6. Having good human relations skills

7. Teachers use of their own time to assist students

8. A high level of knowledge of the specific subject matter and a high level of intelligence

9. Membership in professional organizations. There seemed to be a correlation between interest in teaching and interest in professional activities (Garrett, 1978).

Evaluating Student Teachers: The National Scene (Fant, 1985)

Eight major teaching characteristics were identified in Fant's (1985) review of literature on effective teaching. They are presented as follows:

1. Clarity with structured content and clear explanations

2. The amount of on-task behavior of students

3. The teacher's use of feedback

4. A task-oriented climate

5. A warm, supportive environment

6. A flexible, adaptable teacher

7. Enthusiasm in teaching

8. High expectations of student's abilities (Fant, 1985, p. 7)

What is Good Teaching? Using Criteria of Effective Teaching to Judge Teacher Performance (Beach, 1984)

Skill areas in effective teaching:

1. Clarity of instruction

2. Enthusiasm during instruction

3. Task orientation - the student is actively and productively engaged in the learning process

4. Use of a variety of instructional strategies

5. Interaction with students - the teacher maintains a

positive climate for learning and deals with the students from a perspective that they have worth and dignity.

6. Use of interesting questions - the teacher uses a broad range of types of questions and a large number of questions. The teacher also practices "wait time" (Beach, 1984).

Relationship Between State Minimum Teacher Certification Standards and Teaching Effectiveness

The format for making the comparisons between the state minimum teacher certification standards and the effective schools criteria and effective teacher characteristics will be to list each of the certification standards and then cite statements regarding the other two sets of information.

Admission to Teacher Education

In general, neither the use of a minimum grade point average nor the use of minimum scores for admission to teacher education were supported by the effective schools and effective teacher characteristics studies. Garrett (1978) found that a high level of intelligence was related to teaching success. If attaining minimum scores on the selected standardized achievement tests or earning a 2.5 grade point average or higher equate to "a high level of intelligence," then, two of the criteria used for admission to teacher education are related to effective teaching. One additional extrapolation may be applicable. Based on the Philadelphia Schools study (Summers, 1975), if higher rated colleges have higher admission standards based on higher scores on standardized tests and grade point averages, and higher performance on standardized achievement tests and grade point averages relate to a higher level of intelligence, further support is thereby given for minimum admission standards since

students attending higher rated colleges seemed to be more effective teachers, at least in the elementary schools.

General Education

Based on this review, there was no direct relationship between general education requirements and teaching effectiveness. By the Carnegie Report (Carnegie Forum, 1986) recommending that a bachelors degree in the arts and sciences be a prerequisite to the study of teacher education, some support may be conjectured from their recommendations for a strong general education component.

Professional Education

A significant statement was made by both the Holmes Group (1986) and the Carnegie Forum (1986) that the undergraduate education major should be abolished and that teacher education should be moved to the graduate level. This feeling is

definitely in disagreement with the standards of the state departments of education that were reviewed.

Minimum semester hour requirement. There was no direct relationship between the studies reviewed and a minimum number of semester hours in professional education.

Specified areas within professional education. Of the specific areas listed earlier as requirements by some state departments of education, methods of teaching courses and human growth and development courses received support from the studies on effective teaching. The Holmes Group (1986) recommended that teachers have a greater command of the skills necessary to teach academic subjects. Evertson (1986), Garrett (1978), Fant (1985), and Beach (1984) all identified specific skills and behaviors that were important to effective teaching that should be a part of a course in teaching methodology. The key issue is if, in fact, these important factors are included in the methods of teaching classes.

The findings that a teacher's attitudes toward students, in holding a favorable opinion of them, in appreciating their potential for learning (Garrett, 1978) and in dealing with students from the perspective that they have worth and dignity (Beach, 1984), should be components of a course in human growth and development.

The other areas of professional education had no direct support from the studies reviewed on effective schools nor from the studies on effective teacher characteristics. Those areas included pre-student teaching experiences, student teaching, educational foundations courses, and courses dealing with the education of exceptional children. In studies not cited previously, Evertson, Hawley and Zlotnik (1985) felt that by the end of the student teaching period, student teachers' attitudes and teaching behaviors had regressed from the beginning of the experience. Berliner (1985) felt that student teaching retarded the development of analytic skills. Neither article supported

student teaching as it is presently practiced.

Specialization Studies

The inclusion of specialization studies in the requirements for teacher certification by state departments of education was supported by both the Holmes Group (1986) and by Garrett (1978). Neither source cited a specific minimum number of hours in the specialization areas, but they felt that teachers should have a high level of knowledge or great command of specific subject matter content.

Additional Requirements

Minimum grade point average for certification. No direct support was given by any of the studies for state departments mandating a minimum grade point average for initial certification, except to the degree that a higher grade point average relates to a higher level of competency in the student's

subject.

Competency testing for certification. The Philadelphia Schools study (Summers, 1975) found no relationship between a teachers performance on the National Teachers Examination and their effectiveness as a teacher. The Holmes Group (1986) felt that competency testing should be required for entry into the teaching profession, but they stressed that the tests should be relevant and intellectually defensible. This seems to indicate that for those states that mandate capstone testing, the validity of their tests in relationship to the teaching profession and in particular, teacher effectiveness, is crucial.

Teaching year internship. The Carnegie Forum (1986) recommended that internships and residencies be required. They felt that during the master's degree program each teacher education student should spend one year in residency. Evertson (1986) felt that there should be internship programs for beginning teachers. Based on this review, there was support for

state departments of education mandating internship programs. State departments and accrediting agencies should give strong consideration to the economic factors of internships. If the intern is fully employed at the beginning salary for teachers in their respective district, then an internship is both educationally and financially sound, but if the pre-teacher must postpone entry into the job market for one more year, the recommendation is not reasonable. This is especially true considering the beginning salary of teachers compared to other professions.

Master's degree. The Philadelphia study (Summers, 1975) found no correlation between additional education beyond the bachelor's degree and teacher effectiveness. Both the Holmes Group (1986) and the Carnegie Forum (1986) recommended that teacher education should be conducted only at the graduate level. Based on the Philadelphia study, the level at which teacher education is completed may make no appreciable difference in

terms of student learning. The key may be what occurs at the undergraduate or graduate level in education. It seems clear that if teacher salaries do not reflect the increased educational demands of earning a master's degree before entrance into the teaching profession, capable students who are interested in teaching will begin considering other career options in even greater numbers. When business majors can begin their careers at the conclusion of the bachelor's degree at five to ten thousand dollars more than education majors can begin teaching at the end of a bachelor's degree program, then, when an additional one or two years are added to the pre-teachers educational program, with the beginning salary remaining the same or not significantly different, only the extremely committed few or the dumb will make the sacrifice!

Additional General Comments

As could be seen by the perceptive reader, a number of the

recommendations and findings in both the effective schools studies and the effective teacher studies had no bearing on the guidelines by the state departments of education for teacher certification. Some of the factors identified as being related to effective teaching are personal characteristics and/or factors within a school which may not be directly controllable by state departments setting minimum standards for teacher certification.

Two findings of the Philadelphia Schools study (Summers, 1975) merit further comment. One of the findings, number five in the list, stated that elementary students performed better with teachers from higher rated colleges. At first glance, this seems to indicate that all pre-teachers should be sent to those higher rated institutions for teacher training. An alternate, more plausible explanation, is that higher rated students go to higher rated colleges and perform at higher levels in the public schools as teachers after graduation.

A second finding, number nine in the list, that there was no

relationship found between the race of the student and the race of the teacher in regard to student learning, causes some question regarding the attitude that minority teachers must be hired to teach minority students, at least in terms of student academic achievement.

Conclusion

In conclusion, overall, there was not a great degree of relationship between the current state minimum teacher certification standards effective schools criteria and/or effective teacher characteristics. As NCATE and other national accrediting agencies modify their standards to better reflect the effective schools studies or effective teacher studies, or require teacher education institutions to reflect the findings of these types of studies, teacher education programs will then

begin to better reflect effective teacher characteristics. It would then remain for the state departments of education to either make the same transition to implement the effective schools/teacher studies into their state minimum teacher certification standards or move to allow the national accrediting agencies to set the minimum certification standards. The last option could be problematic in the sense that state departments of education would begin to lose control of their state higher education programs in teacher education, even though they provide significant funding for the programs. This has certainly already occurred. Some states further support the transition to national accrediting associations by requiring that teachers have completed NCATE approved programs if they are certified in another state and are moving into their own state and are seeking certification. Regardless of who sets the standards for teacher certification, the standards mandated should reflect the use of sound research findings regarding teacher effectiveness. A high

level of teacher effectiveness should be a major goal of teacher education and certification.

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